

REMARKS

Claims 1, 2, and 4-9 are all the claims pending in the application. Similar to the June 5, 2003 Office Action, the Examiner has repeated the 35 U.S.C. § 102(b) rejection of claims 6-8 and 21 as being anticipated by Kawata et al. (U.S. Patent No. 5,890,395), as well as the 35 U.S.C. § 103(a) rejection of claims 1, 2, 4, and 5 as being unpatentable over Bito et al. (U.S. Patent No. 5,983,055) in view of Shintani et al. (U.S. Patent No. 5,124,219). Further, claim 9 was again rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawata et al. in view of Nishimuro et al. (U.S. Patent No. 5,991,574).

First, since the Examiner's rejections are similar to the prior Office Action, Applicants herein incorporate the comments from the August 11, 2003 Supplemental Amendment. Specifically, Applicants strongly maintain that the taper range recited in claim 1 is outside the range disclosed in the cited art of record. In a prior response, Applicants submitted on page 4 of the August 11, 2003 Supplemental Amendment that the claimed range for the taper angle is critical, because the results are unexpected. In support of this argument, Applicants pointed out that the specification (at the paragraph bridging pages 20 and 21) teaches that when the taper angle is greater than 3.5×10^{-3} , the resin pipe is no longer uniform in property. However, in this Office Action, the Examiner states that as the expected properties at the 3.6×10^{-3} angle disclosed by Bito et al. are not discussed in our response, it is unclear why the results are unexpected.

Solely to advance prosecution of a particular embodiment of the invention, Applicants have amended the claimed taper range to the range shown on page 20 of the specification, of $1 \times$

$10^{-3} < \tan \Theta < 2.5 \times 10^{-3}$. Applicants reserve the right to prosecute a broader taper range in a continuing application.

Applicants submit in addition to the previously submitted arguments, that the amended taper range is further distinguished from Bito et al. As for the results using this claimed taper range, Applicants submit in view of the dimensional accuracy as a resin pipe for photosensitive drums, it is desirable that the taper angle is close to “zero” because there is a difference in wall thickness when the resin pipe has a specific taper angle and then has poor dimensional accuracy fluctuating at its ends by shrinkage after demolding. As a result, the resin pipe has poor dimensional accuracy due to shrinking and also has uneven physical properties, thereby reducing printing performance. In addition, it is dangerous that a resin pipe becomes curved such as “banana-shaped” because the resin pipe having a large taper angle provides an extreme difference in wall thickness. That situation is not preferable for the use of photosensitive drums. Therefore, it is desirable for the resin pipe that the taper angle is as small as possible, such as in the present invention. Accordingly, Applicants respectfully submit that the claims are allowable over the cited art.

Also, new to this Office Action, claims 6-8 were rejected under 35 U.S.C. § 112, second paragraph because the Examiner states that the claim 6 recitation of the phrase “protrudes outward from an inner end of the resin pipe to an outer end” is indefinite as its meaning is unclear. Applicants have amended claims 6 and 7 to more clearly define this feature. Applicants submit that this amendment is thought to overcome the Examiner’s 35 U.S.C. § 112 rejection. No amendment is thought to be necessary for dependent claim 8.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 09/748,215

Attorney Docket No. Q62482

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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